July 26, 2004 (AR-18J)

Don Sutton
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Dear Mr. Sutton:

On February 4, 2004, the Illinois Environmental Protection Agency (IEPA) released for public comment a draft Prevention of Significant Deterioration (PSD) permit for the Prairie State Generating Station (01100065). The United States Environmental Protection Agency (USEPA) has reviewed the draft permit and provides the following comments. We are also reviewing the proposed project pursuant to the Federal Endangered Species Act.

The draft permit proposes the Best Available Control Technology (BACT) for sulfur dioxide for the boilers as 0.182 lb/million (mm) British thermal units (BTU) on a 30-day rolling average. In addition, wet flue gas desulfurization with limestone is the proposed control device. The recent PSD permitting actions for the Indeck Elwood project in Illinois and the proposed WE Power project in Wisconsin both have lower BACT limits of 0.15 lb/mmBTU as the emission rate. Considering that the high inherent sulfur content of the mine mouth coal to be combusted at the proposed source results in an SO2 emission rate that is above 0.15 lb/mmBTU, the BACT determination also should include an enforceable 30-day rolling average minimum percent control efficiency for the SO2 control system.

The application rejects coal washing as part of BACT due to energy, environmental, and economic impacts associated with coal washing. In its project summary for the Prairie State project, IEPA discusses coal washing as a part of the BACT determination. However, the reasoning used in the third paragraph of page 8, “Coal washing becomes economical when the coal is transported over a distance. Then the savings in transportation costs for the washed coal, which contains 15 to 20 percent more heating value per ton, offsets the costs associated with coal washing.”, is not sufficient by itself to eliminate a requirement for coal washing. The technical feasibility of coal washing has been demonstrated by existing coal fired power plants utilizing washed coal, including some using coal washing in combination with wet scrubbing. The record needs to thoroughly and conclusively justify any decision to not require coal washing, as coal washing is commonly seen as a beneficial process for control of emissions.

The draft permit proposes a BACT limit of 0.08 lb/mmBTU for nitrogen oxides (NOx). We recommend that the BACT limit be set at least at 0.07 lb/mmBTU, which is being permitted in both the WE Power project in Wisconsin and the MidAmerican project in Iowa, or that the record be developed to support the higher NOx limit.

The draft permit contains a limit for particulate matter (PM) that only addresses filterable PM10 emissions. The IEPA addresses condensible PM emissions by claiming that a limit on emissions of sulfuric acid mist would serve "as a surrogate" for control of condensible PM emissions. We recommend that the IEPA also include a limit for total PM10 which includes both filterable and condensible PM10 emissions.

The draft permit (Condition 2.1.2 (b)) contains the following provision, "the emissions from each boiler shall not exceed the following limits except during start up, shut down, and malfunction as addressed by Condition 2.1.2(e)." The RockGen Energy Center PSD permit appeal (99-1) provides guidance on provisions relating to periods of startup or shutdown of a facility. The Environmental Appeals Board determined that the Wisconsin Department of Natural Resources could make an on-the-record determination as to whether compliance with existing permit limitations is infeasible and, if so, what permit provisions are appropriate to minimize excess emissions. If the permitting authority determines that compliance with an applicable limit cannot be achieved during startup and shutdown despite best efforts, it should specify and carefully circumscribe in the permit the circumstances under which the facility would be permitted to exceed otherwise applicable emissions limits and establish that such conditions are nonetheless in compliance with applicable requirements, assuming that national ambient air quality standards and increment provisions are not threatened. In such case, the IEPA may include a secondary PSD limit, provided it is made part of the PSD permit and justified as BACT. Here, however, it is not clear that the record contains an adequate analysis for the use of a justified secondary BACT for the boiler's startup, shutdown, and malfunction periods. Such an analysis is required.

In addition to our comments on the BACT limits, we would like to address the Maximum Achievable Control Technology limit proposed in the permit for mercury. As you know, on January 30, 2004, the USEPA proposed standards for boilers at electric power plants. The draft permit, for the control of mercury, sets a case-by-case emission rate of 0.000020 lb/MWh, which is higher than the emission limit proposed by USEPA for new boilers firing bituminous coal, as would occur at the proposed source. (The limit proposed in the draft permit is essentially the limit proposed by USEPA for existing coal fired boilers). We encourage the IEPA to further examine the USEPA's docket for its rulemaking to determine whether a case-by-case limit for mercury can be set for this project that is identical to the applicable limit proposed by USEPA. The IEPA's record for this project must clearly explain and document the IEPA's determination (including consideration of USEPA's proposed rule) and the basis for the selected case-by-case mercury limit. As IEPA has

established the mercury emission rate in terms of lb/Mwh, we also suggest that the permit also identify the mercury emission rate in lb/mmBTU.

If you have any questions, please feel free to contact me, or Constantine Blathras, of my staff, at (312) 886-0671.

Sincerely yours,

/s/

Pamela Blakley, Chief
Air Permits Section